

REMARKS**Status of the Claims**

Claims 1-24 remain pending in the application. Please amend claims 2-6 and 8-18.

Claims 21-24 claims have been added. No claims have been canceled.

Allowable Subject Matter in New Claims

Applicant respectfully thanks the Examiner for allowing claims 13, 17, and 18 if rewritten in independent form including all of the limitations of their base claims and any intervening claims. Applicant respectfully submits that claim 13 has been rewritten in independent form in claim 21, which including all of the limitations of the base claim and intervening claims. Applicant respectfully submits that claim 17 has been rewritten in independent form in claim 22, which including all of the limitations of the base claim and intervening claims. Applicant respectfully submits that claim 18 has been rewritten in independent form in claim 23, which including all of the limitations of the base claim and intervening claims. Furthermore, new claim 24 includes the limitation “after receiving framing schedule requests from the plurality of end point devices” (Claim 24) similar to claim 13¹ that the Examiner said is allowable. As such, Applicant respectfully requests that the Examiner allow claims 21-24.

¹ This limitation as noted by the Examiner does not exist in the references. The Examiner said the “waiting for all endpoint devices in a network to respond with a framing schedule request” (Claim 13) is allowable. Accordingly, the references do not disclose “after receiving framing schedule requests from the plurality of end point devices” (Claim 24).

Office Action Rejections Summary

Claims 8-9 have been objected to because they include “the endpoint device” which does not have sufficient antecedent basis.

Claims 2-4 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 1 has been rejected under 35 U.S.C. § 102(e) as being anticipated by Morris.

Claims 2-4, 10, 14-16, and 19-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris. Claim 5, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Cai. Claims 6-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Klayman. Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Klayman further in view of Cai. Claims have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris.

Claim Objections

Claims 8-9 have been objected to because they include “the endpoint device” which does not have sufficient antecedent basis. Applicant respectfully submits that “the endpoint device” has been amended to “at least one of the endpoint devices” (Claims 8-9) which is consistent with the Examiner’s suggestions. As such, Applicant respectfully requests that the objection to claim 8-9 be removed.

Claim Rejections under 35 U.S.C. § 112

Claims 2-4 have been rejected under 35 U.S.C. § 112, second paragraph because the Office Action states that there is insufficient antecedent basis for the limitation “per codeword” Applicant respectfully submits that claims 2-4 have been amended to provide antecedent basis through the amendment “further comprising: at least one codeword within the decreasing redundancy data packet wherein the number of message symbols per codeword remains constant and the number of redundant symbols decreases over the length of the packet.” (Claims 2-4).

Furthermore, support for the term “per codeword” is found throughout the specification, and at least in the specification on page 3 (See specification pg. 3, lines 4-17). As such Applicant respectfully submits that that the § 112, second paragraph has been overcome.

Claim Rejections under 35 U.S.C. § 102(e)

Claim 1 has been rejected under 35 U.S.C. § 102(e) as being unpatentable over Morris. Applicant respectfully submits that claim 1 is patentable over the cited reference. Applicant reserves the right to swear behind the Morris reference at a later time. Claim 1 recites:

A transmitting device for transmitting data packets over a network, the transmitting device comprising:

a framing coordinator for creating a **decreasing redundancy data packet** having a **increasing ratio of message symbols/redundant symbols over the length of the packet**; and

a transmitter for transmitting the decreasing redundancy data packet over the network.

(emphasis added).

The Office Action states:

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Morris et al (United States Patent # 6,314,535). Regarding Claim 1, Morris et al meets the following limitations:

a framing coordinator for creating a decreasing redundancy data packet having a increasing ratio of message symbols/ redundant symbols over the length of the packet; and **Abstract**; (Column 17, lines 14-20); (Column 6, lines 11-35).

a transmitter for transmitting the decreasing redundancy data packet over the network.
Abstract

(Office Action, 7/2/04, pg. 3).

Applicant respectfully submits that Morris discloses “a forward error correction (FEC) method” (See Morris Abstract) that generates “a subsequent error correction algorithm...selected from the plurality of error correction algorithms” (Morris, col. 2, lines 57-60). Applicant respectfully submits that Morris merely creates an algorithm dependent data packet using one of the plurality of error correction algorithms, all of which are standard algorithms that have a fixed ratio of symbols over the length of the packet. Accordingly, Morris does not disclose “creating a decreasing redundancy data packet having a increasing ratio of message symbols/redundant symbols over the length of the packet” (Claim 1). Moreover, Morris discusses that an encoder “appends error correction data onto the...data packet according to an error correction algorithm” (Morris, col. 6, lines 4-6). The message symbols/redundant symbols within the data packet in Morris have a fixed “overhead percentage...defined as the amount of error correction data relative to the amount of traffic data in a...data packet” (Morris, col. 9, lines 19-22) that is determined “within the limits of the particular error correction algorithm employed” (Morris, col. 7, lines 15-17), rather than “an increasing ratio of message symbols/redundant symbols over the length of the packet”.

As such, Morris does not disclose all of the limitations stated in Claim 1. Accordingly, Claim 1 is not anticipated under § 102(e).

Claim Rejections under 35 U.S.C. § 103(a)

Claims 2-4, 10, 14-16, and 19-20

Claims 2-4, 10, 14-16, and 19-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris.

Dependent Claims 2-4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris.

Claim 2 recites:

The system of claim 1 further comprising: at least one codeword within the **decreasing redundancy data packet** wherein the number of message symbols per codeword remains constant and the number of redundant symbols decreases over the length of the packet.

(emphasis added).

Claim 3 recites:

The system of claim 1 further comprising: at least one codeword within the **decreasing redundancy data packet** wherein the number of message symbols per codeword increases over the length of the packet and the number of redundant symbols per codeword remains constant.

(emphasis added).

Claim 4 recites:

The system of claim 1 further comprising: at least one codeword within the **decreasing redundancy data packet** wherein the number of message symbols per codeword increases and the number of redundant symbols per codeword decreases over the length of the packet.

(emphasis added).

The Office Action states:

Claims are 2-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al (US Pat 6,314,535). Morris et al meets all the limitations of the Claims except describing the exact adjustment of the coding rate (or ratio) by either adjusting the overhead or the payload. Morris et al does describe increasing the data traffic while decreasing overhead, and vice versa (Column 17, Lines 17-22). However adjusting the coding rate by

changing the overhead or payload is a design choice and is well known in the art to those of ordinary skill in the art.

(Office Action, 7/2/04, pg. 3).

Applicant respectfully submits that dependent claims 2-4 are patentable over the cited reference at least because they depend on an allowable independent claim. Furthermore, the Examiner's statement of "adjusting the coding rate by changing the overhead or payload is a design choice and is well known in the art" (See Office Action, pg. 3) does not apply.

Applicant's claims because the Applicant's claims have to do with "decreasing redundancy data packet" (Claims 2-4). The Examiner's comments concerning fixed redundancy data packets that are adjusted by changing the overhead and payload are not relevant. Morris does not teach or suggest a "decreasing redundancy data packet" (Claims 2-4). In contrast, Morris merely creates an algorithm dependent data packet using one of the plurality of error correction algorithms, all of which are standard algorithms that have a fixed ratio of symbols over the length of the packet.

Furthermore, there is no motivation to modify the teachings of Morris. In addition, it would be impermissible hindsight to modify Morris based upon applicant's own disclosure. As such, Applicant respectfully submits that claims 2-4 are not taught or suggested by Morris.

Claim 10 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris.

Applicant respectfully submits that claim 10 is patentable over the cited reference. Claim 10 recites:

A method for negotiating the degree of redundancy in data packets transmitted by a broadcasting device over a network to multiple endpoint devices comprising:
determining a first redundancy requirement for a first endpoint device, the first redundancy requirement comprising an **increasing ratio of message symbols/redundant symbols over the length of a packet**;
determining a second redundancy requirement for a second endpoint device, the second redundancy requirement comprising an **increasing ratio of message symbols/redundant symbols over the length of a packet**;

selecting a framing schedule based on the redundancy requirement having the greatest amount of redundancy; and
transmitting data packets over the network to the first and second endpoint devices according to the framing schedule.

(emphasis added).

The Office Action states:

Claims 10, 14-16, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al(US Pat 6,314,535). Morris et al meets the following limitations of the Claim 10:

determining a first redundancy requirement for a first endpoint device, the first redundancy requirement comprising an increasing ratio of message symbols/ redundant symbols over the length of a packet; **Abstract; (column 17, lines 14-20)**

determining a second redundancy requirement for a second endpoint device, the second redundancy requirement comprising an increasing ratio of message symbols/ redundant symbols over the length of a packet; **Abstract; (column 17, lines 14-20)**

selecting a framing schedule based on the redundancy requirement having the greatest amount of redundancy; and **fig 4b, fig Sa, 6; (Column 20, Line 63 to Column 21, Line 14)**

transmitting data packets over the network to the first and second endpoint devices according to the framing schedule. **Abstract**

(Office Action, 7/2/04, pg. 6).

Applicant respectfully submits that Morris does not teach or suggest a “increasing ratio of message symbols/redundant symbols over the length of a packet” (Claim 10). In contrast, Morris discusses that an encoder “appends error correction data onto the...data packet according to an error correction algorithm” (Morris, col. 6, lines 4-6). The message symbols/redundant symbols within the data packet in Morris have a fixed “overhead percentage...defined as the amount of error correction data relative to the amount of traffic data in a...data packet” (Morris, col. 9, lines 19-22) that is determined “within the limits of the particular error correction algorithm employed” (Morris, col. 7, lines 15-17). In contrast, the Applicant’s claims disclose

an “increasing ratio of message symbols/redundant symbols over the length of a packet” (Claim 10). Moreover, there is no motivation to modify the teachings of Morris. In addition, it would be impermissible hindsight to modify Morris based upon applicant’s own disclosure. As such, Applicant respectfully submits that claim 10 is not taught or suggested by Morris. Furthermore, Applicant respectfully submits that claims 14-16 are allowable at least for the reason that they depend on claim 10.

Claim 19 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris. Applicant respectfully submits that claim 19 is patentable over the cited reference. Claim 19 recites:

A system for negotiating a framing schedule for block error correction on data packets in digital communications comprising:
means for receiving data packets at an endpoint device;
means for calculating an error correction redundancy requirement for the endpoint device;
means for transmitting the calculated redundancy requirement from the endpoint device over the network to a broadcaster device;
means for determining a framing schedule in the broadcaster device based on the error correction redundancy requirement of the endpoint device; and
means for transmitting **a data packet having an increasing ratio of message signals/redundant symbols according to the framing schedule.**

(emphasis added).

The Office Action states:

Claims 10, 14-16, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al(US Pat 6,314,535).

(Office Action, 7/2/04, pg. 6).

Applicant respectfully submits that Morris does not teach or suggest “a data packet having an increasing ratio of message signals/redundant symbols according to the framing schedule” (Claim 19). In contrast, Morris discusses that an encoder “appends error correction

data onto the...data packet according to an error correction algorithm” (Morris, col. 6, lines 4-6). The message symbols/redundant symbols within the data packet in Morris have a fixed “overhead percentage...defined as the amount of error correction data relative to the amount of traffic data in a...data packet” (Morris, col. 9, lines 19-22) that is determined “within the limits of the particular error correction algorithm employed” (Morris, col. 7, lines 15-17). In contrast, the Applicant’s claims disclose “a data packet having an increasing ratio of message signals/redundant symbols according to the framing schedule” (Claim 19). Moreover, there is no motivation to modify the teachings of Morris. In addition, it would be impermissible hindsight to modify Morris based upon applicant’s own disclosure. As such, Applicant respectfully submits that claim 19 is not taught or suggested by Morris.

Claim 20 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris. Applicant respectfully submits that claim 20 is patentable over the cited reference. Claim 20 recites:

A method for negotiating the degree of redundancy in data packets transmitted by a broadcasting device over a network to multiple endpoint devices comprising:
means for determining a first redundancy requirement for a first endpoint device, the first redundancy requirement comprising an **increasing ratio of message symbols/redundant symbols over the length of a packet**;
means for determining a second redundancy requirement for a second endpoint device, the second redundancy requirement comprising an **increasing ratio of message symbols/redundant symbols over the length of a packet**;
means for selecting a framing schedule based on the redundancy requirement having the greatest amount of redundancy; and
means for transmitting data packets over the network to the first and second endpoint devices according to the framing schedule.

(emphasis added).

The Office Action states:

Claims 10, 14-16, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al(US Pat 6,314,535).

(Office Action, 7/2/04, pg. 6).

Applicant respectfully submits that Morris does not teach or suggest a “increasing ratio of message symbols/redundant symbols over the length of a packet” (Claim 20). In contrast, Morris discusses that an encoder “appends error correction data onto the...data packet according to an error correction algorithm” (Morris, col. 6, lines 4-6). The message symbols/redundant symbols within the data packet in Morris have a fixed “overhead percentage...defined as the amount of error correction data relative to the amount of traffic data in a...data packet” (Morris, col. 9, lines 19-22) that is determined “within the limits of the particular error correction algorithm employed” (Morris, col. 7, lines 15-17). In contrast, the Applicant’s claims disclose an “increasing ratio of message symbols/redundant symbols over the length of a packet” (Claim 20). Furthermore, there is no motivation to modify the teachings of Morris. In addition, it would be impermissible hindsight to modify Morris based upon applicant’s own disclosure. As such, Applicant respectfully submits that claim 20 is not taught or suggested by Morris.

Claim 5, 11, and 12

Claim 5, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Cai.

Claim 5 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris. Applicant respectfully submits that claim 5 is patentable over the cited reference. Claim 5 recites:

A transceiver for transmitting and receiving data over a network, the transceiver comprising:

a slicer for determining a signal-to-noise ratio of received decreasing redundancy data packets as a function of received packet length;

a block error correction calculator coupled to the slicer for determining redundancy requirements for the transceiver according to the determined signal-to-noise ratio; and

a transmitter coupled to the block error correction calculator for transmitting a schedule request packet over the network, the **schedule request packet including the decreasing redundancy requirements** of the transceiver as determined by the block error correction calculator to **inform a transmitting network device of the decreasing redundancy requirement of the transceiver.**

(emphasis added).

The Office Action states:

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al (US Pat 6,314,535) in view of Cai (Us Pat 6,205,410). Morris et al meets the following limitations of the Claim:

a transmitter coupled to the block error correction calculator for transmitting a schedule request packet over the network, the schedule request packet including the redundancy requirements of the transceiver as determined by the block error correction calculator to inform a transmitting network device of the redundancy requirement of the transceiver.
Fig 8b, abstract

(Office Action, 7/2/04, pg. 4).

Applicant respectfully submits that the combination of Morris and Cai does not teach or suggest at least “redundancy data packets” having “decreasing redundancy requirements” (Claim 5). In contrast, the combination of Morris and Cai merely discusses an algorithm dependent data packet created using one of “the plurality of error correction algorithms” (Morris, col. 2, lines 59-60) and a “signal-to-noise (SNR) variation logic..determines an variation in the signal-to-noise ratio for each channel” that carries packets (Cai, col. 2, lines 5-7). As such, it is not clear to the Applicant whether there is any suggestion to combine these two references. However, even if the suggestion were proper, the combination would merely calculate signal-to-noise ratios of algorithm dependent data packets that have a fixed ratio of symbols over the length of the packet. In contrast, the combination would not teach or suggest “a slicer for determining a signal-to-noise ratio of received decreasing redundancy data packets...schedule request packet

including the decreasing redundancy requirements of the transceiver” (Claim 5). As such, Applicant respectfully submits that claim 5 is allowable. Furthermore, Applicant respectfully submits that claims 11-12 are allowable at least for the reason that they depend on an allowable independent claim.

Claims 6-8

Claims 6-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Klayman.

Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris. Applicant respectfully submits that claim 6 is patentable over the cited reference. Claim 6 recites:

A system for block error correction on data packets in digital communication over a network, the system comprising:

a broadcaster device coupled to a network for broadcasting decreasing redundancy data packets over the network according to a framing schedule;

a first endpoint device coupled to the network for receiving the decreasing redundancy data packets, the first endpoint device having a first decreasing redundancy requirement;

a second endpoint device coupled to the network for receiving the decreasing redundancy data packets, the second endpoint device having a second decreasing redundancy requirement; and

the broadcaster being configured to determine the framing schedule based on the greater of the first and second decreasing redundancy requirement.

(emphasis added).

The Office Action states:

Claims 6-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al (US Pat 6,314,535) in view of Klayman et al (US Pat# 5,699,365). Morris et al meets the following limitations of Claim 6:

a broadcaster device coupled to a network for broadcasting data over the network according to a framing schedule; **fig 4b, 8b, abstract**

a first endpoint device coupled to the network for receiving the broadcast data, the first endpoint device having a first redundancy requirement; **fig 4b, 8b, abstract**

a second endpoint device coupled to the network for receiving broadcast data, the second endpoint device having a second redundancy requirement; **fig 4b, 8b, abstract**

(Office Action, 7/2/04, pg. 4).

Applicant respectfully submits that the combination of Morris and Klayman does not teach or suggest at least “a broadcaster device...for broadcasting decreasing redundancy data packets over the network” (Claim 6). In contrast, the combination of Morris and Klayman merely discusses an algorithm dependent data packet created using one of “the plurality of error correction algorithms” (Morris, col. 2, lines 59-60) and that “packets having an initial degree of forward error correction is transmitted on a communication channel...monitored for reception of a revised forwarding error parameter” (Klayman, col. 9, lines 55-66). The combination would merely transmit algorithm dependent data packets that have a fixed ratio of symbols over the length of the packet, and monitor a communications channel for a new algorithm. In contrast, the combination would not teach or suggest “a broadcaster device...for broadcasting decreasing redundancy data packets over the network...first endpoint device having a first decreasing redundancy requirement...second endpoint device having a second decreasing redundancy requirement; and the broadcaster being configured to determine the framing schedule based on the greater of the first and second decreasing redundancy requirement” (Claim 6). As such, Applicant respectfully submits that claim 6 is allowable. Furthermore, Applicant respectfully submits that claims 7-8 are allowable at least for the reason that they depend on an allowable independent claim.

Claim 9

Claim 9 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Klayman further in view of Cai. Applicant respectfully submits that claim 9 is patentable over the cited references. Claim 9 recites:

The system of claim 6 wherein the endpoint device comprises a slicer and a block error correction calculator for sampling the data and determining redundancy requirements for at least one of the endpoint devices.

(emphasis added).

The Office Action states:

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al (US Pat 6,314,535) in view of Klayman et al (US Pat# 5,699,365) further in view of Cai (US Pat 6,205,410). Morris et al and Klayman meet all the limitations of Claim 9, except disclosing the use of a slicer.

(Office Action, 7/2/04, pg. 5).

Applicant respectfully submits that dependent claim 9 is patentable over the cited reference at least because it depends on an allowable independent claim. Furthermore, Applicant respectfully submits that the combination of Morris and Klayman and Cai does not teach or suggest at least “a broadcaster device...for broadcasting decreasing redundancy data packets over the network” (Claim 6). In contrast, the combination would merely transmit algorithm dependent data packets that have a fixed ratio of symbols over the length of the packet, and monitor a communications channel for a new algorithm calculated from signal-to-noise ratios. In contrast, the combination would not teach or suggest the limitations of claim 6 from which claim 9 depends including “a broadcaster device...for broadcasting decreasing redundancy data packets over the network...first endpoint device having a first decreasing redundancy requirement...second endpoint device having a second decreasing redundancy requirement; and the broadcaster being configured to determine the framing schedule based on the greater of the


first and second decreasing redundancy requirement” (Claim 6). As such, Applicant respectfully submits that claim 9 is allowable.

Conclusion

It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections have been overcome. Applicant reserve all rights with respect to the application of the doctrine equivalents. If there are any additional charges, please charge them to our Deposit Account No. 02-2666. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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